

# Spaceport News

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[http://www.nasa.gov/centers/kennedy/news/snews/spnews\\_toc.html](http://www.nasa.gov/centers/kennedy/news/snews/spnews_toc.html)



## STS-115 crew, Atlantis prepare for late August launch

Launch to take place as early as Aug. 27

Golden twilight sunshine welcomed the STS-115 astronauts on Aug. 7 as they swooped into Kennedy Space Center for an intensive week of training and a realistic launch rehearsal to get them ready for their upcoming mission.

Known as the terminal count-down demonstration test, the event includes seemingly every part of a launch but the actual liftoff. The event takes place approximately

two weeks before the mission and gives the crew the chance to perform important tasks like check the fit of their spacesuits, "shoot" landings in the Shuttle Training Aircraft and take part in a full launch day simulation.

Participating in the test was the entire STS-115 crew, consisting of Commander Brent Jett, Pilot Christopher Ferguson and Mission Specialists Heidemarie Stefanyshyn-Piper, Joseph Tanner, Daniel Burbank and Steven MacLean, who is from the Canadian Space Agency.

The astronauts opened the event by meeting with members of the news media after flying to Kennedy from their home base in Houston aboard T-38 trainer jets. The press conference took place from the ramp of Kennedy's airfield, known as the Shuttle Landing Facility.

Afterward, Jett and Ferguson spooled up the twin engines of the Shuttle Training Aircraft to practice the precision landing Space Shuttle Atlantis will make.

Early on Aug. 8, the astronauts started the day's training with a little "off roading" to practice driving the M-113 personnel carriers. The vehicles are essentially little unarmed tanks and offer a quick escape from the pad launch area in an emergency. The training was serious, but that didn't keep smiles from spreading across the faces of the crew members as they bounced around dirt

(See STS-115, Page 4)



THE STS-115 crew gathers on the 215-foot level of the fixed service structure on Launch Pad 39B. From left are Mission Specialists Joseph Tanner and Heidemarie Stefanyshyn-Piper, Commander Brent Jett, Pilot Christopher Ferguson, and Mission Specialists Steven MacLean and Daniel Burbank. MacLean is with the Canadian Space Agency.

## NASA's STEREO to guide future space weather forecasts in 3-D

NASA's Solar Terrestrial Relations Observatory (STEREO), is set to launch from Cape Canaveral Air Force Station aboard a Boeing Delta II rocket on Aug. 31.

STEREO consists of two spacecraft that together comprise the first mission to take measurements of the sun and solar wind in 3-D. This new view will improve our understanding of space weather and

(See STEREO, Page 2)



THE STEREO spacecraft sits on a test stand inside the Astrotech facility in Titusville.



ATLANTIS SITS on Launch Pad 39B. Extended toward Atlantis is the orbiter access arm with the White Room at the end.





**Jim Kennedy**  
Center Director

# The Kennedy Update

**H**ello, everyone! It seems like only yesterday we were launching and landing Discovery. Now, as we prepare to launch Atlantis and the P3/P4 truss segment and associated solar arrays to the International Space Station, let's remember what got us to this point.

NASA has spent more than \$1 billion to improve the shuttle fleet's overall safety, including the new improvements to the external tank. The agency has proven the new design and we are back in business, building the space station.

Shortly after Atlantis lifts off as early as Aug. 27, the Launch Services Program will be in the spotlight as we prepare for the

Aug. 31 launch of STEREO, NASA's Solar Terrestrial Relations Observatory, on a Delta II vehicle from Complex 17. STEREO is a set of two identical spacecraft designed to explore the origins and consequences of coronal mass ejections, the most violent explosions in our solar system.

We need more information about these events as we push toward exploring the outer regions of space.

Earlier this month, some of you were present when the project manager for Deep Impact, Richard Grammier of the Jet Propulsion Laboratory, spoke to us about the ongoing successes of that mission, the first attempt to look beneath a comet's surface for clues on its

formation. This is another proud example of the work performed by the Launch Services Program, which launched Deep Impact back in January 2005.

The scientific results are still being analyzed and the spacecraft may receive a future wake-up call for more investigations.

Going back even further, it was 30 years ago this month that NASA launched the Viking 1 spacecraft from Cape Canaveral. Viking, as you know, performed the first successful entry and landing on Mars.

**"The agency has proven the new design and we are back in business, building the space station."**

It was the forerunner to the various other Mars missions such as Pathfinder and the Mars Exploration Rovers. The successes of these missions helped to pave the way for future space exploration.

Designed to last only 90 days, Viking collected information for more than six years and mapped nearly 97 percent of the Martian surface. The thermal protection and parachute systems used on the Mars landers have utilized the

design of the first Viking mission.

As we cherish the time-honored heritage of KSC, another exciting chapter is being started with KSC's Exploration Park as industry leaders strategize with the agency on how both can work side by side advancing the U.S. space program. Soon you will see more on the KSC landscape about this exciting venture.

It's time to mark your calendars for the Sept. 9 Diversity Event at the Radisson Pavilion in Cape Canaveral, celebrating the traditions and heritage of the

wonderful world of diversity our center cherishes.

NASCAR's director of diversity, Tish

Sheets, will be the guest speaker, and she will tell us all about the challenges to make the NASCAR sport "look more like America."

You are aware we are in the middle of hurricane season and KSC has its preparations in place. I advise you all to take similar precautions in your homes and with your family.

It's far better to be prepared than to end up wishing you were when it's too late. Have a great week and stay cool. Godspeed, Atlantis and STEREO!

## STEREO . . .

*(Continued from Page 1)*

its impact on the Earth.

During the two-year mission, the two nearly identical spacecraft will explore the origin and evolution of coronal mass ejections, the most violent explosions in our solar system. When directed at Earth, these billion-ton eruptions can disrupt satellites, radio communications and power systems.

Better prediction means more warning time for satellite and power grid operators to put their assets into a "safe mode" to weather the storm while a better understanding will help engineers figure out how to build better and more resilient systems.

In addition, energetic particles associated with these solar eruptions are hazardous to scientific spacecraft and astronauts. Scientists believe STEREO will help them answer these

questions:

- What configuration of the corona leads to a Coronal Mass Ejection (CME)?
- What initiates and accelerates a CME?
- How does a CME interact with the heliosphere?
- How do CMEs cause space weather disturbances?

Truly an international effort, many portions of the STEREO instruments were provided by the United States, the United Kingdom and several European countries. The instruments were integrated with the observatories by the Johns Hopkins University Applied Physics Laboratory in Laurel, Md.

NASA's Goddard Space Flight Center in Greenbelt, Md., is responsible for the project management. The NASA Launch Services Program at Kennedy Space Center and Boeing are responsible for the launch.

## August NASA employees of the month



**T**he August NASA employees of the month, from left, are Lisa Williams, Engineering Development; Kevin Smith, Shuttle Processing; and Melodie Jackson, Constellation Project Office. Not pictured are Richard Sharum, Information Technology and Communications Services; Amy Houts Gilfriche, Space Shuttle Program; Dr. Ayman Abdallah, Launch Services Program; Patrick Smith, Chief Financial Office; and Barbara Lockley, Payload Processing.

# Dowdell credits colleagues for Director's Award

By Linda Herridge  
Staff Writer

**W**illiam Dowdell received Kennedy Space Center's highest honor, the KSC Director's Award, during the recent NASA Awards Ceremony.

Dowdell is chief of the Mission Management Office and technical operations director for payload launches in the International Space Station/Payload Processing directorate. He received the award for "outstanding leadership, significant contributions and dedication to the success of the International Space Station Program."

"I was very honored to receive this award," Dowdell said. "But it's also a reflection on the entire group's performance, including Boeing's Checkout Assembly and Payload Processing Services and fellow ISS colleagues' dedication to achieving success."

Reminiscing about his quarter-century at KSC, Dowdell said he never dreamed he'd be working for NASA. Coming to the Space Coast from his hometown of Fairmont, W. Va., was by chance.

After earning a bachelor's degree in biology and chemistry from Fairmont State University in 1979, Dowdell visited friends

living in Cocoa Beach. He applied for a job at Management Services Inc. (now Wiltech) and was hired as a chemical analysis technician.

In 1982, Dowdell returned to his home state and earned a Bachelor of Science degree in Chemical Engineering from West Virginia University in 1985, then returned to Florida, hooked on the space program.

He worked for Lockheed Space Operations Co., in environmental control and life support systems, from 1985 to 1989 and was then hired by NASA. Dowdell worked in the Test Director's Office beginning in 1989 and was a shuttle test director from 1994 through 1996, before transferring to space station element processing.

In the Space Station Processing Facility, Dowdell worked on station elements including the Zenith 1 (Z1) truss for mission STS-92 that launched on Oct. 11, 2000, and the power module (P6) for mission STS-97 that launched on Nov. 30, 2000.

For P6 processing, Dowdell traveled to California to work with Rocketdyne and Boeing. He also worked with Lockheed and Loral Space Systems and led the qualification test programs for Z1 in Seattle and P6 in Denver.

"Working for Norm Carlson, and later Mike Leinhart in the Shuttle Processing Directorate made it very easy in my current job to integrate the space station work effort with the shuttle operations integrated flow," Dowdell said.

In his current position, Dowdell is responsible for space station hardware integration and performing final flight test and assembly in the facility prior to delivery to the station. He also ensures that cost, schedule and technical issues are resolved.

Russ Romanella, director of Station/Payload Processing, said Dowdell's insight into ground processing of human space flight vehicles is unsurpassed.

Dowdell works with other agency centers, Boeing Design Centers in Canoga Park, Calif., and international partners, such as the European Space Agency for the Nodes 2 and 3 and Columbus module processing and the Japanese Aerospace Exploration



WILLIAM DOWDELL, chief of the Mission Management Office and technical operations director for payload launches, received the KSC Director's Award.

Agency for the Japanese Experiment Module.

"We are building a one-of-a-kind laboratory in space," Dowdell said. "The technology and its robustness will be a huge help to the agency as we prepare to go to the moon and Mars. And I hope we'll be able to use the station to the full extent of its research capabilities to improve the quality of life here on Earth."

## Exploration Park aligns industry with NASA vision

**K**ennedy Space Center recently hosted an industry day briefing and a tour of NASA's new Exploration Park site. Representatives from prospective commercial developers, engineering and construction firms, economic development organizations and a variety of technology and space-related companies attended the briefing on Aug. 10 at the KSC Visitor Complex Universe Theater.

The event was part of NASA's effort to solicit offers from the private sector for the development and long-term operation of Exploration Park.

According to Jim Ball, KSC spaceport development manager, growth of the park will advance

NASA's mission, help to open space to commerce and improve life on Earth. Ball said the park is expected to attract tenants engaged in space technology, commerce and education.

Center Director Jim Kennedy welcomed participants and expressed his excitement for the future of KSC. "During this briefing, I hope you will learn how you may partner with us and we may partner with you for the success of our Vision for Space Exploration and the success of Exploration Park," Kennedy said.

Kennedy said development of Exploration Park, located along Space Commerce Way behind the KSC Visitor Complex, is an opportunity for private industry to

contribute and be part of the vision.

"We're all about building and launching rockets, and you develop and operate real estate," Kennedy said. "We look forward to your contributions."

Brevard County District 2 Commissioner Ron Pritchard greeted participants and said he was especially interested in working with NASA to make Exploration Park a success.

Ball told prospective tenants he is looking forward to being able to accommodate them in Exploration Park.

"We have support

from both state and local partnerships for this endeavor," Ball said. These include Fla. Gov. Jeb Bush and the state legislature, Enterprise Florida, the Economic Development Council of Florida's Space Coast, and other local government organizations and entities.



CENTER DIRECTOR Jim Kennedy talks to company officials interested in the new Exploration Park.



# STS-115 astronaut crew completes tra

## STS-115 . . .

(Continued from Page 1)

roads behind the pad. The fun continued in the evening when Jett and Ferguson took another turn at the training aircraft's stick to further perfect their landings.

When morning arrived Aug. 9, the STS-115 crew once again greeted reporters with a question-and-answer session — this time from a field near the launch pad.

After the news conference, they resumed their training by practicing emergency evacuations from the site. During this important safety exercise, the astronauts acquainted themselves with "slidewire baskets" they can quickly hop into and ride to a nearby safety zone.

The baskets are stationed high on the pad near the orbiter and can be released to zoom down a cable anchored a healthy distance from the pad. It's a simple, reliable and, best of all, fast way to clear the area.

The training week peaked Aug. 10 with a dress rehearsal and simulated countdown that had the look and feel of a real launch day.

The astronauts were a familiar sight in their bright-orange launch and entry suits as they made their way to the silver Astrovan for a smooth ride to the launch pad.

There, they entered Atlantis and began the process of setting switches and systems aboard the ship for flight as launch controllers ticked through the mock countdown.

After a successful launch simulation, the crew members finished up their test week with a careful look at the P3/P4 truss segment secured inside the payload bay of Atlantis. After ensuring the next space station component was fit for flight and safely tucked away for launch, the astronauts brought the week of training and preparations to a close.

Leaving the way that they came, Jett and his team returned to the Shuttle Landing Facility where the T-38s awaited to take them home to Texas. Under the amber haze of a Florida setting sun, much like the one warming the sky the night they arrived, the STS-115 astronauts raced into the air, ready and awaiting their ultimate liftoff.



IN THE payload changeout room on Launch Pad 39B, STS-115 crew members look over the mission payload one more time before launch.



STS-115 CREW members look at an M-113 armored personnel carrier that could be used to move quickly away from the launch pad in the event of an emergency. From left are Commander Brent Jett, Pilot Chris Ferguson and Mission Specialists Heidmarie Stefanyshyn-Piper and Joseph Tanner. In the foreground are Mission Specialists Daniel Burbank and Steven MacLean.



MEMBERS OF the STS-115 crew practices exiting from the slidewire basket, used during emergency egress from the launch pad.

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# Training, simulated countdown at KSC



STS-115 CREW members receive instructions about using the slidewire baskets for emergency egress from the shuttle on the pad. At center, foreground, is Commander Brent Jett. The others, from left, are Mission Specialists Joseph Tanner, gesturing, Steven MacLean, Daniel Burbank and Heidemarie Stefanyshyn-Piper.

**STS-115 - 19th Space Station flight**

**Launch: no earlier than Aug. 27, 2006, at 4:30 p.m.**

**Landing (if launched Aug. 27): Sept. 7, 2006, at 12:02 p.m.**

**Pad B: 116th shuttle mission**

**27th flight of OV-104**

**63rd scheduled KSC landing**



INSIDE ATLANTIS' cockpit, STS-115 Mission Specialists Heidemarie Stefanyshyn-Piper and Joseph Tanner are taking part in a simulated launch countdown, the culmination of Terminal Countdown Demonstration Test activities.



THE STS-115 crew, from left, Christopher Ferguson, Brent Jett, Heidemarie Stefanyshyn-Piper, Joseph Tanner, Steven MacLean and Daniel Burbank, pauses for a moment outside the orbiter access arm's White Room.



# Space leaders honor retirees for lifetime achievements

By Jennifer Wolfinger  
Staff Writer

Many space program leaders and legends gathered at the DoubleTree Oceanfront Hotel in Cocoa Beach on Aug. 8 for the National Space Club's 2006 Lifetime Achievement Award ceremony. The club's Florida Committee honored retired space program employees Sam Beddingfield, Francis Shill and J. Tall Webb.

While the crowded room enjoyed lunch, local musician Chris Kahl sang "Rocket Boys," a song he wrote for the honorees. The song can be found on his CD "Orange Blossom Memories."

Chairman of the Board Adrian Lafitte of Lockheed Martin praised the award recipients. "We're here to celebrate three individuals that have dedicated and been an advocate most of their lifetimes to the space program," he said.

Beddingfield retired from NASA in 1985 after a 26-year career with the nation's space agency. He joined NASA at the insistence of Gus Grissom and came to Florida in 1959 to help guide Project Mercury. He was among the first to work on the space shuttle at Kennedy Space



FRANCIS SHILL (left), Sam Beddingfield and J. Tall Webb display their 2006 Lifetime Achievement Awards received Aug. 8 from the National Space Club Florida Committee.

Center and left the program as deputy director of shuttle operations. He continues to be involved in space history initiatives and resides in Titusville.

Beddingfield shared that he was one of just 33 employees at the spaceport; when employees were assigned numbers, he was number four. "I had worked through 23 launches and decided enough was enough," he said about his decision to end his exciting career.

Shill worked as a contractor on the Eastern Range for more than 40 years and retired in 2004 as

director of the Range Technical Services Contract for the U.S. Air Force 45th Space Wing. A former National Space Club Florida Committee board chairman, he resides on Merritt Island.

Shill said his favorite moments were working on the Range as opposed to the management side, and that it was much easier during his early career because the many programs had adequate funding.

"The belief in the ability to get the job done if you try hard hasn't changed in 35 years," he added.

"I can't think of a better calling to spend the past four-plus decades

of my life."

Thirty-nine years of experience allowed veteran aerospace manager Webb to work on every U.S. manned space program. Webb retired in 1998 as director of support operations and systems management for United Space Alliance. The local chapter of the American Society of Mechanical Engineers named its top annual award for Webb, who resides on Merritt Island.

Webb said he loved getting up in the morning for work and making the long drive from Satellite Beach, because he could think about what he had planned for the day. He also enjoyed the teamwork, but said he valued his home team most.

"There's nothing more interesting or more worthwhile to work on," he shared.

Each year, the committee recognizes one to three people for lifelong achievements and contributions to the U.S. space program. Nominees come from government, military, commercial or government contractor organizations.

They may be retired or currently employed in continuous service for a substantial period. For information, visit <http://www.nscfl.org>.

## NASA awards launch services for '08 lunar mission

NASA recently announced the award of launch services for the Lunar Reconnaissance Orbiter mission to Lockheed Martin Commercial Launch Services of Littleton, Colo. The total cost of launch services for NASA, which includes spacecraft processing and associated mission integration services, such as telemetry support and mission-unique items, is \$136.2 million.

The spacecraft are scheduled for launch aboard an Atlas V 401 rocket from Complex 41 at Cape Canaveral Air Force Station during a launch window that opens on Oct. 31, 2008. The launch service was awarded in support of the NASA Launch Services Program office at Kennedy Space Center.

The orbiter will spend a year mapping the moon from an average altitude of approximately 30 miles. It will carry six instruments and one technology demonstration to perform investigations specifically targeted for preparing for future human exploration. The instruments are provided by various organizations throughout the United States,

and one is from Russia.

The mission is also carrying a secondary payload called the Lunar Crater Observation and Sensing Satellite. Its goals are to confirm the presence or absence of water ice at the moon's south pole. NASA's Goddard Space Flight Center in Greenbelt, Md., manages the orbiter project, and the agency's Ames Research Center in Moffett Field, Calif., manages the sensing satellite project.

Principal work for tank manufacturing of the Atlas V first stage booster will occur at the Lockheed Martin facilities in Waterton, Colo.; tank fabrication for the Centaur upper stage will occur at the Lockheed facilities in San Diego; assembly and testing of the launch vehicle components will occur at the Lockheed aeronautics plant in Denver.

The fabrication and assembly of the payload fairing, the interstate and its associated adapter will be performed by Lockheed in Harlingen, Texas.

# Remembering Our Heritage

## 30 years ago: Highly successful Viking 1 mission first to land on Mars

By Kay Grinter  
Reference Librarian

**T**hirty years ago, NASA's Viking 1 and 2 landers made history as they touched down on the surface of Mars intact, the first probes to successfully soft-land on another planet in our solar system.

A primary goal of the Viking Project was to determine whether life existed on Mars through on-the-spot biological tests. Each mission consisted of an orbiter, built in-house at the Jet Propulsion Laboratory, and a Martin Marietta-built lander.

The lander was designed to slow its descent to the Martian surface by deploying a parachute which would be discarded at about 3,900 feet. Three radar-controlled, liquid-fueled engines would then lower the spacecraft to the ground at a speed between 5 and 11 feet per second.

The launches were planned 10 days apart during Earth/Mars opposition, which occurs about every 26 months.

Since there was only one pad at Launch Complex 41 to support the project's Titan-Centaur rockets, an unusual processing schedule was devised.

The vehicle for the second Viking mission was checked out at the pad ahead of the vehicle slated to launch the first spacecraft. Preparations on the second vehicle continued in nearby facilities while the vehicle for the first mission was installed on the pad for the final launch campaign.

NASA alumnus Jack Baltar was the test operations manager for Unmanned Launch Operations and was responsible for the launch readiness of both the vehicles and the pad. From his home on Merritt Island, he recalls, "The short time period between the launches put

pressure on the team, but we were up to the challenge."

Viking 1 launched Aug. 20, 1975. There was minimal damage to the pad, allowing Viking 2 to launch 20 days later on Sept. 9.

About a year after its launch, the Viking 1 lander separated from its orbiter and touched down safely at Chryse Planitia on July 20, 1976. Its historic first image was transmitted 25 seconds later.

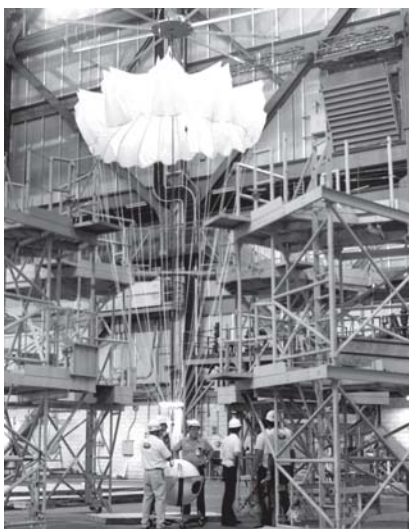
Following close behind, the Viking 2 lander touched down at Utopia Planitia Sept. 3.

Originally designed to function a mere 90 days, the Viking spacecraft collected data for more than six years. The landers took 4,500 close-up images of the Martian surface and more than three million weather-related measurements, including the first *in situ* observations of a global Martian dust storm.

The orbiters took more than 50,000 images, mapping 97 percent of the planet.

Among the memorabilia displayed on the walls of Baltar's home is a photo he treasures from his career at Kennedy Space Center: an image of the Martian landscape inscribed to him by Viking Project Manager Jim Martin of NASA's Langley Research Center.

It reads: "Your fine work on the Viking TC-3 made this picture possible. Thank you."



A PARACHUTE system (above), designed to carry an instrument-laden probe through the atmosphere of Mars, was tested in the Vehicle Assembly Building. Full-scale parachutes, 12 feet in diameter, with simulated pressure vessels weighing up to 45 pounds, were dropped from heights of up to 450 feet to the floor of the building. At right, the Titan III-Centaur carrying the Viking 1 Lander lifted off on Aug. 20, 1975.



## Astronaut Scholarship Foundation awards 18 college grants

**E**ighteen college students were each recently awarded a \$10,000 scholarship through the Astronaut Scholarship Foundation.

The group of 60 astronauts chose students who exhibited exceptional performance in the science or engineering field of their major. The recipients were notified of their scholarship for the 2006-2007 year through a personal letter from the astronauts.

"Our goal is to inspire renewed interest in science and engineering careers here in the United States," said Astronaut Scholarship Foundation Chairman and Apollo 15 astronaut Al Worden. "We are committed to

encouraging the next generation of explorers. Our nation is strongest when we lead the world in innovation and invention."

Scholarship candidates are nominated by faculty members and reviewed by a board at 18 cooperating educational institutions. Two nominees from each school are submitted to the foundation's committee. The selections are presented to the group's directors for final approval.

The foundation has awarded more than \$2.3 million in scholarships to 211 students nationwide since 1985.

For a complete listing of the scholarship winners and information, visit [www.AstronautScholarship.org](http://www.AstronautScholarship.org).



# Kennedy's work force has a 'Deep Impact' on NASA mission

By Jennifer Wolfinger  
Staff Writer

The Deep Impact spacecraft might be in "sleep mode" after an exhausting assignment, but the mission's team members aren't hitting the snooze button. On Aug. 9, Project Manager Richard Grammier of the Jet Propulsion Laboratory presented a mission overview to spaceport employees on the scientific results received to date.

Deep Impact is the first mission to probe beneath the surface of a comet and reveal the evolutionary changes of its interior.

The spacecraft launched from Cape Canaveral Air Force Station on Jan. 12, 2005, aboard a Boeing Delta II rocket. It traveled approximately 268 million miles to collide with Comet Tempel 1 on July 3 of that year.

"You deserve to see the results of your hard work," Grammier said to the KSC team.

He described the anatomy of the spacecraft and comet, the different comet orbits and the

mission's objectives.

The two-part spacecraft comprised flyby and impactor portions. The battery-powered impactor was released into the comet's path to collide with it. The impactor's camera captured and relayed dramatic images of the comet's nucleus seconds before impact.

The flyby spacecraft recorded the impact and the materials that were blasted upward.

"Comets are the building blocks of our solar system," Grammier said. "They are time capsules that preserve the original foundation of our solar system."

He said 400 tons of interplanetary material impacts the atmosphere each day. "They're usually small, with the basketball-size (material) impacting about once a week or month, car-size about every six months and the bus-size every few million years," he said.

Comet Tempel 1 was selected as an optimum target because it made many passages through the inner solar system, orbiting the sun every 5.5 years. A comet's compo-



RICHARD GRAMMIER, Deep Impact project manager from the Jet Propulsion Laboratory, spoke to KSC employees Aug. 9 about the successful mission. At right, rising from the flames and smoke beneath it, NASA's Deep Impact spacecraft lifts off Jan. 12, 2005, from Launch Pad 17-B at the Cape Canaveral Air Force Station.



sition includes primitive debris from the solar system's distant and coldest regions that formed 4.5 billion years ago.

"About 4 billion years ago, the Earth encountered a heavy bombardment period and couldn't retain an atmosphere to allow life to develop. Life began to form once conditions allowed for it after this period," he explained.

In February, scientists detected ice on Comet Tempel 1, marking the first time this was discovered on the nucleus of a comet. Another exciting discovery was that the

comet produced six outbursts during six weeks, which had never been seen on a comet.

"We concluded that as it rotated into the sunlight from darkness, it would heat up and gases would off-put," Grammier said.

The spacecraft, which is awaiting a possible wake-up call for future research, is on a trajectory to fly past Earth in late 2007. For more information, visit [www.nasa.gov/mission\\_pages/deepimpact/main/index.html](http://www.nasa.gov/mission_pages/deepimpact/main/index.html).

## 2006 KSC Diversity Event celebrates traditions



THE 2006 Kennedy Space Center Diversity Event at the Radisson Pavilion in Cape Canaveral begins at 6:30 p.m. on Sept. 9.

Make your plans now to celebrate one of the many reasons that Kennedy Space Center is special at the 2006 Diversity Event from 6:30 p.m. to midnight Sept. 9 at the Radisson Pavilion in Cape Canaveral.

With the theme, "Diversity: A cord of many strands is not easily broken," the event will feature guest speaker Tish Sheets, director of diversity and special projects for NASCAR. Tickets cost \$25 and can be purchased from the Office of Diversity and Equal Opportunity, HQ Room 2327, or from the following people: Lisa Arnold, Headquarters fourth floor, 867-7246; Linnette Daniels, Hangar N (cape side) room 200, 853-9261; Maxine Daniels, Space Station Processing Facility, room 3228X, 867-5976; Agnes Vargas, Operations and Checkout Building, room 1056, 867-3004; and Latasha Walker, Logistics building, room 2710F2, 861-7439.



John F. Kennedy Space Center

## Spaceport News

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